

CLAIMS

1. Method to produce an austenitic alloy, characterized in that an austenitic substrate alloy of low Al content is coated with at least one layer of an alloy of higher Al content at a temperature between 100 °C and 600 °C, so that the resulting product has an Al content of 4,5–12 % by weight, preferably 5,5–12 % by weight.
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2. Method to produce an austenitic alloy according to claim 1,
10 characterized in that a substrate alloy having the following composition (in % by weight):

20–70 % of Ni,
15–27 % of Cr,
0–5 % of Al,
15 0–4 % of Mo and/or W,
0–2 % of Si,
0–3 % of Mn,
0–2 % of Nb,
0–0,5 % of Y, Zr and/or Hf,
20 0–0,5 % of Ti,
0–0,1 % of one or more rare earth metals (REM)
balance Fe and normally occurring impurities
is coated with at least one layer of a composition of higher Al content.
- 25 3. Method for the manufacture of an austenitic alloy according to any one of claims 1–2, characterized in that the at least one layer is aluminium.
4. Method for the manufacture of an austenitic alloy according to any one of claims 1–2, characterized in that the at least one layer is an
30 aluminium-based alloy.

5. Method for the manufacture of an austenitic alloy according to any one of claim 4, in which the aluminium-based alloy is Al having 0,5 to 25 % by weight of Si.
- 5 6. Method for the manufacture of an austenitic alloy according to any one of claims 1–5, wherein the austenitic final product has the following composition (in % by weight):
 - 10 0–0,2 % of C,
 - 0–0,1 % of N,
 - 25–70 % of Ni,
 - 15–25 % of Cr,
 - 4,5–12 % of Al,
 - 0–4 % of Mo and/or W,
 - 0–4 % of Si,
 - 15 0–3 % of Mn,
 - 0–2 % of Nb,
 - 0–0,5 % of Ti,
 - 0–0,5 % of Y, Sc, Zr and/or Hf,
 - 0–0,2 % of one or more rare earth metals (REM) such as, e.g., Ce, La, Sm,
 - 20 balance Fe and normally occurring impurities.
- 25 7. Austenitic alloy with an Al content of 4,5–12 % by weight, characterized in that it is manufacturable by the method according to any one of claims 1–6.
- 30 8. Use of the method according to any of claims 1–6 for producing material to be used in high temperature applications such as supporting material in catalytic converters and resistive heating.